

1

SEQUENCE LISTING

<110> BASF Aktiengesellschaft

<120> Hoden-spezifisches Calpain

<120> Testis specific calpain

<130> OZ0050/

<140>

<141>

<160> 2

<170> PatentIn Ver. 2.0

<210> 1

<211> 2338

<212> DNA

<213> Homo sapiens

<220>

<221> 5'UTR

<222> (1)..(103)

<220>

<221> CDS

<222> (104)..(2212)

<220>

<221> 3'UTR

<222> (2213)..(2338)

<400> 1

ctccccaggg ccgagtccttc cggagtcagc agagagcctg gatggatcac aggaggataa 60

gcctcggggc	tcatgtgcgg	agcccacttt	tactgatacg	gga	atg	gtg	gct	cac	115
					Met	Val	Ala	His	
					1				

ata	aac	aac	agc	cgg	ctc	aag	gcc	aag	ggc	gtg	ggc	cag	cac	gac	aac	163
Ile	Asn	Asn	Ser	Arg	Leu	Lys	Ala	Lys	Gly	Val	Gly	Gln	His	Asp	Asn	
5					10				15						20	

gcc	cag	aac	ttt	ggt	aac	cag	agc	ttt	gag	gag	ctg	cga	gca	gcc	tgt	211
Ala	Gln	Asn	Phe	Gly	Asn	Gln	Ser	Phe	Glu	Glu	Leu	Arg	Ala	Ala	Cys	
			25						30					35		

cta	aga	aag	ggg	gag	ctc	ttc	gag	gac	ccc	tta	ttc	cct	gct	gaa	ccc	259
Leu	Arg	Lys	Gly	Glu	Leu	Phe	Glu	Asp	Pro	Leu	Phe	Pro	Ala	Glu	Pro	
			40					45					50			

agc	tca	ctg	ggc	ttc	aag	gac	ctg	ggc	ccc	aac	tcc	aaa	aat	gtg	cag	307
Ser	Ser	Leu	Gly	Phe	Lys	Asp	Leu	Gly	Pro	Asn	Ser	Lys	Asn	Val	Gln	
		55					60					65				

aac	atc	tcc	tgg	cag	cgg	ccc	aag	gat	atc	ata	aac	aac	cct	cta	ttc	355
Asn	Ile	Ser	Trp	Gln	Arg	Pro	Lys	Asp	Ile	Ile	Asn	Asn	Pro	Leu	Phe	

70	75	80	
atc atg gat ggg att tct cca aca gac atc tgc cag ggg atc ctc ggg Ile Met Asp Gly Ile Ser Pro Thr Asp Ile Cys Gln Gly Ile Leu Gly 85 90 95 100			403
gac tgc tgg ctg ctg gct gcc atc ggc tcc ctt acc acc tgc ccc aaa Asp Cys Trp Leu Leu Ala Ala Ile Gly Ser Leu Thr Thr Cys Pro Lys 105 110 115			451
ctg cta tac cgc gtg gtg ccc aga gga cag agc ttc aag aaa aac tat Leu Leu Tyr Arg Val Val Pro Arg Gly Gln Ser Phe Lys Lys Asn Tyr 120 125 130			499
gct ggc atc ttc cat ttt cag att tgg cag ttt gga cag tgg gtg aac Ala Gly Ile Phe His Phe Gln Ile Trp Gln Phe Gly Gln Trp Val Asn 135 140 145			547
gtg gtg gta gat gac cgg ctg ccc aca aag aat gac aag ctg gtg ttt Val Val Val Asp Asp Arg Leu Pro Thr Lys Asn Asp Lys Leu Val Phe 150 155 160			595
gtg cac tca acc gaa cgc agt gag ttc tgg agt gcc ctg ctg gag aag Val His Ser Thr Glu Arg Ser Glu Phe Trp Ser Ala Leu Leu Glu Lys 165 170 175 180			643
gcg tat gcc aag ctg agt ggg tcc tat gaa gca ttg tca ggg ggc agt Ala Tyr Ala Lys Leu Ser Gly Ser Tyr Glu Ala Leu Ser Gly Gly Ser 185 190 195			691
acc atg gag ggc ctt gag gac ttc aca gga ggc gtg gcc cag agc ttc Thr Met Glu Gly Leu Glu Asp Phe Thr Gly Gly Val Ala Gln Ser Phe 200 205 210			739
caa ctc cag agg ccc cct cag aac ctg ctc agg ctc ctt agg aag gcc Gln Leu Gln Arg Pro Pro Gln Asn Leu Leu Arg Leu Leu Arg Lys Ala 215 220 225			787
gtg gag cga tcc tcc ctc atg ggt tgc tcc att gaa gtc acc agt gat Val Glu Arg Ser Ser Leu Met Gly Cys Ser Ile Glu Val Thr Ser Asp 230 235 240			835
agt gaa ctg gaa tcc atg act gac aag atg ctg gtg aga ggg cac gct Ser Glu Leu Glu Ser Met Thr Asp Lys Met Leu Val Arg Gly His Ala 245 250 255 260			883
tac tct gtg act ggc ctt cag gat gtc cac tac aga ggc aaa atg gaa Tyr Ser Val Thr Gly Leu Gln Asp Val His Tyr Arg Gly Lys Met Glu 265 270 275			931
aca ctg att cgg gtc cgg aat ccc tgg ggc cgg att gag tgg aat gga Thr Leu Ile Arg Val Arg Asn Pro Trp Gly Arg Ile Glu Trp Asn Gly 280 285 290			979
gct tgg agt gac agt gcc agg gag tgg gaa gag gtg gcc tca gac atc Ala Trp Ser Asp Ser Ala Arg Glu Trp Glu Glu Val Ala Ser Asp Ile 295 300 305			1027
cag atg cag ctg ctg cac aag acg gag gac ggg gag ttc tgg atg tcc Gln Met Gln Leu Leu His Lys Thr Glu Asp Gly Glu Phe Trp Met Ser 1075			

310	315	320	
tac caa gat ttc ctg aac aac ttc acg ctc ctg gag atc tgc aac ctc Tyr Gln Asp Phe Leu Asn Asn Phe Thr Leu Leu Glu Ile Cys Asn Leu 325 330 335 340			1123
acg cct gat aca ctc tct ggg gac tac aag agc tac tgg cac acc acc Thr Pro Asp Thr Leu Ser Gly Asp Tyr Lys Ser Tyr Trp His Thr Thr 345 350 355			1171
ttc tac gag ggc agc tgg cgc aga ggc agc tcc gca ggg ggc tgc agg Phe Tyr Glu Gly Ser Trp Arg Arg Gly Ser Ser Ala Gly Gly Cys Arg 360 365 370			1219
aac cac cct ggc acg ttc tgg acc aac ccc cag ttt aag atc tct ctt Asn His Pro Gly Thr Phe Trp Thr Asn Pro Gln Phe Lys Ile Ser Leu 375 380 385			1267
cct gag ggg gat gac cca gag gat gac gca gag ggc aat gtt gtg gtc Pro Glu Gly Asp Asp Pro Glu Asp Asp Ala Glu Gly Asn Val Val Val 390 395 400			1315
tgc acc tgc ctg gtg gcc cta atg cag aag aac tgg cgg cat gca cgg Cys Thr Cys Leu Val Ala Leu Met Gln Lys Asn Trp Arg His Ala Arg 405 410 415 420			1363
cag cag gga gcc cag ctg cag acc att ggc ttt gtc ctc tac gcg gtc Gln Gln Gly Ala Gln Leu Gln Thr Ile Gly Phe Val Leu Tyr Ala Val 425 430 435			1411
cca aaa gag ttt cag aac att cag gat gtc cac ttg aag aag gaa ttc Pro Lys Glu Phe Gln Asn Ile Gln Asp Val His Leu Lys Lys Glu Phe 440 445 450			1459
ttc acg aag tat cag gac cac ggc ttc tca gag atc ttc acc aac tca Phe Thr Lys Tyr Gln Asp His Gly Phe Ser Glu Ile Phe Thr Asn Ser 455 460 465			1507
cgg gag gtg agc agc caa ctc cgg ctg cct ccg ggg gaa tat atc att Arg Glu Val Ser Ser Gln Leu Arg Leu Pro Pro Gly Glu Tyr Ile Ile 470 475 480			1555
att ccc tcc acc ttt gag cca cac aga gat gct gac ttc ctg ctt cgg Ile Pro Ser Thr Phe Glu Pro His Arg Asp Ala Asp Phe Leu Leu Arg 485 490 495 500			1603
gtc ttc acc gag aag cac agc gag tca tgg gaa ttg gat gaa gtc aac Val Phe Thr Glu Lys His Ser Glu Ser Trp Glu Leu Asp Glu Val Asn 505 510 515			1651
tat gct gag caa ctc caa gag gaa aag gtc tct gag gat gac atg gac Tyr Ala Glu Gln Leu Gln Glu Glu Lys Val Ser Glu Asp Asp Met Asp 520 525 530			1699
cag gac ttc cta cat ttg ttt aag ata gtg gca gga gag ggc aag gag Gln Asp Phe Leu His Leu Phe Lys Ile Val Ala Gly Glu Gly Lys Glu 535 540 545			1747
ata ggg gtg tat gag ctc cag agg ctg ctc aac agg atg gcc atc aaa Ile Gly Val Tyr Glu Leu Gln Arg Leu Leu Asn Arg Met Ala Ile Lys 550 555 560			1795

550 555 560

ttc aaa agc ttc aag acc aag ggc ttt ggc ctg gat gct tgc cgc tgc 1843
Phe Lys Ser Phe Lys Thr Lys Gly Phe Gly Leu Asp Ala Cys Arg Cys
565 570 575 580

atg atc aac ctc atg gat aaa gat ggc tct ggc aag ctg ggg ctt cta 1891
Met Ile Asn Leu Met Asp Lys Asp Gly Ser Gly Lys Leu Gly Leu Leu
585 590 595

gag ttc aag atc ctg tgg aaa aaa ctc aag aaa tgg atg gac atc ttc 1939
Glu Phe Lys Ile Leu Trp Lys Lys Leu Lys Lys Trp Met Asp Ile Phe
600 605 610

aga gag tgt gac cag gac cat tca ggc acc ttg aac tcc tat gag atg 1987
Arg Glu Cys Asp Gln Asp His Ser Gly Thr Leu Asn Ser Tyr Glu Met
615 620 625

cgc ctg gtt att gag aaa gca ggc atc aag ctg aac aac aag gta atg 2035
Arg Leu Val Ile Glu Lys Ala Gly Ile Lys Leu Asn Asn Lys Val Met
630 635 640

cag gtc ctg gtg gcc agg tat gca gat gat gac ctg atc ata gac ttt 2083
Gln Val Leu Val Ala Arg Tyr Ala Asp Asp Asp Leu Ile Ile Asp Phe
645 650 655 660

gac agc ttc atc agc tgt ttc ctg agg cta aag acc atg ttc aca ttc 2131
Asp Ser Phe Ile Ser Cys Phe Leu Arg Leu Lys Thr Met Phe Thr Phe
665 670 675

ttt cta acc atg gac ccc aag aat act ggc cat att tgc ttg agc ctg 2179
Phe Leu Thr Met Asp Pro Lys Asn Thr Gly His Ile Cys Leu Ser Leu
680 685 690

gaa cag tgg ctg cag atg acc atg tgg gga tag aggcgctgta ggagcctgggt 2232
Glu Gln Trp Leu Gln Met Thr Met Trp Gly
695 700

catctctacc agcagcagca gcagcgaggt tctagcccag gaggggtgggg tgcttcttgt 2292

agccctcagc tctccagtct ctgctgatga aatgggatcc aggtgg 2338

<210> 2
<211> 702
<212> PRT
<213> Homo sapiens

<400> 2
Met Val Ala His Ile Asn Asn Ser Arg Leu Lys Ala Lys Gly Val Gly
1 5 10 15
Gln His Asp Asn Ala Gln Asn Phe Gly Asn Gln Ser Phe Glu Glu Leu
20 25 30
Arg Ala Ala Cys Leu Arg Lys Gly Glu Leu Phe Glu Asp Pro Leu Phe
35 40 45
Pro Ala Glu Pro Ser Ser Leu Gly Phe Lys Asp Leu Gly Pro Asn Ser
50 55 60

Lys Asn Val Gln Asn Ile Ser Trp Gln Arg Pro Lys Asp Ile Ile Asn
 65 70 75 80
 Asn Pro Leu Phe Ile Met Asp Gly Ile Ser Pro Thr Asp Ile Cys Gln
 85 90 95
 Gly Ile Leu Gly Asp Cys Trp Leu Leu Ala Ala Ile Gly Ser Leu Thr
 100 105 110
 Thr Cys Pro Lys Leu Leu Tyr Arg Val Val Pro Arg Gly Gln Ser Phe
 115 120 125
 Lys Lys Asn Tyr Ala Gly Ile Phe His Phe Gln Ile Trp Gln Phe Gly
 130 135 140
 Gln Trp Val Asn Val Val Val Asp Asp Arg Leu Pro Thr Lys Asn Asp
 145 150 155 160
 Lys Leu Val Phe Val His Ser Thr Glu Arg Ser Glu Phe Trp Ser Ala
 165 170 175
 Leu Leu Glu Lys Ala Tyr Ala Lys Leu Ser Gly Ser Tyr Glu Ala Leu
 180 185 190
 Ser Gly Gly Ser Thr Met Glu Gly Leu Glu Asp Phe Thr Gly Gly Val
 195 200 205
 Ala Gln Ser Phe Gln Leu Gln Arg Pro Pro Gln Asn Leu Leu Arg Leu
 210 215 220
 Leu Arg Lys Ala Val Glu Arg Ser Ser Leu Met Gly Cys Ser Ile Glu
 225 230 235 240
 Val Thr Ser Asp Ser Glu Leu Glu Ser Met Thr Asp Lys Met Leu Val
 245 250 255
 Arg Gly His Ala Tyr Ser Val Thr Gly Leu Gln Asp Val His Tyr Arg
 260 265 270
 Gly Lys Met Glu Thr Leu Ile Arg Val Arg Asn Pro Trp Gly Arg Ile
 275 280 285
 Glu Trp Asn Gly Ala Trp Ser Asp Ser Ala Arg Glu Trp Glu Glu Val
 290 295 300
 Ala Ser Asp Ile Gln Met Gln Leu Leu His Lys Thr Glu Asp Gly Glu
 305 310 315 320
 Phe Trp Met Ser Tyr Gln Asp Phe Leu Asn Asn Phe Thr Leu Leu Glu
 325 330 335
 Ile Cys Asn Leu Thr Pro Asp Thr Leu Ser Gly Asp Tyr Lys Ser Tyr
 340 345 350
 Trp His Thr Thr Phe Tyr Glu Gly Ser Trp Arg Arg Gly Ser Ser Ala
 355 360 365
 Gly Gly Cys Arg Asn His Pro Gly Thr Phe Trp Thr Asn Pro Gln Phe
 370 375 380

Lys Ile Ser Leu Pro Glu Gly Asp Asp Pro Glu Asp Asp Ala Glu Gly
 385 390 395 400
 Asn Val Val Val Cys Thr Cys Leu Val Ala Leu Met Gln Lys Asn Trp
 405 410 415
 Arg His Ala Arg Gln Gln Gly Ala Gln Leu Gln Thr Ile Gly Phe Val
 420 425 430
 Leu Tyr Ala Val Pro Lys Glu Phe Gln Asn Ile Gln Asp Val His Leu
 435 440 445
 Lys Lys Glu Phe Phe Thr Lys Tyr Gln Asp His Gly Phe Ser Glu Ile
 450 455 460
 Phe Thr Asn Ser Arg Glu Val Ser Ser Gln Leu Arg Leu Pro Pro Gly
 465 470 475 480
 Glu Tyr Ile Ile Ile Pro Ser Thr Phe Glu Pro His Arg Asp Ala Asp
 485 490 495
 Phe Leu Leu Arg Val Phe Thr Glu Lys His Ser Glu Ser Trp Glu Leu
 500 505 510
 Asp Glu Val Asn Tyr Ala Glu Gln Leu Gln Glu Glu Lys Val Ser Glu
 515 520 525
 Asp Asp Met Asp Gln Asp Phe Leu His Leu Phe Lys Ile Val Ala Gly
 530 535 540
 Glu Gly Lys Glu Ile Gly Val Tyr Glu Leu Gln Arg Leu Leu Asn Arg
 545 550 555 560
 Met Ala Ile Lys Phe Lys Ser Phe Lys Thr Lys Gly Phe Gly Leu Asp
 565 570 575
 Ala Cys Arg Cys Met Ile Asn Leu Met Asp Lys Asp Gly Ser Gly Lys
 580 585 590
 Leu Gly Leu Leu Glu Phe Lys Ile Leu Trp Lys Lys Leu Lys Lys Trp
 595 600 605
 Met Asp Ile Phe Arg Glu Cys Asp Gln Asp His Ser Gly Thr Leu Asn
 610 615 620
 Ser Tyr Glu Met Arg Leu Val Ile Glu Lys Ala Gly Ile Lys Leu Asn
 625 630 635 640
 Asn Lys Val Met Gln Val Leu Val Ala Arg Tyr Ala Asp Asp Asp Leu
 645 650 655
 Ile Ile Asp Phe Asp Ser Phe Ile Ser Cys Phe Leu Arg Leu Lys Thr
 660 665 670
 Met Phe Thr Phe Phe Leu Thr Met Asp Pro Lys Asn Thr Gly His Ile
 675 680 685
 Cys Leu Ser Leu Glu Gln Trp Leu Gln Met Thr Met Trp Gly
 690 695 700